MATH

Factors and factor pairs

Name _____ Date _____

I can find all the factor pairs of a number.

1 How it works

Factors are numbers that multiply to make another number. To find them all, test 1, 2, 3 and so on. 12 = 1 × 12, 2 × 6 and 3 × 4. These are the factor pairs. So the factors of 12 are 1, 2, 3, 4, 6 and 12.

Factors of 12

1 × 12

2 × 6

3 × 4

1, 2, 3, 4, 6, 12

2 Find the factor pairs, then list the factors

1 40

Factor pairs:

Factors:

2 45

Factor pairs:

Factors:

3 42

Factor pairs:

Factors:

4 48

Factor pairs:

Factors:

How did I do? ☆ ☆ ☆

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List the factors

Name _____ Date _____

I can find every factor of a number.

1 List all the factors

Start with 1 and the number itself.

1. **20**
   Factors:
2. **32**
   Factors:
3. **54**
   Factors:
4. **28**
   Factors:
5. **56**
   Factors:
6. **24**
   Factors:
7. **30**
   Factors:
8. **18**
   Factors:

2 Is it a factor?

Circle yes or no.

1. Is 11 a factor of 36? yes no
2. Is 5 a factor of 45? yes no
3. Is 8 a factor of 54? yes no
4. Is 18 a factor of 54? yes no
5. Is 11 a factor of 48? yes no
6. Is 15 a factor of 30? yes no

How did I do? ☆ ☆ ☆

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Common factors

Name _____ Date _____

I can find the factors two numbers share.

1 List the factors. Circle the ones both numbers share.

1 12 and 18

Factors of 12:

Factors of 18:

2 20 and 30

Factors of 20:

Factors of 30:

2 Think about it

1. Which has more factors, 16 or 17?
2. What number is a factor of every number?
3. I am a factor of 20. I am even. I am between 5 and 15.
4. Write a number that has exactly 3 factors.

How did I do? ☆ ☆ ☆

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Word problems

Name _____ Date _____

I can use factors and multiples to solve problems.

1 Read, think, answer

Show your thinking in the box.

1 Zara has 24 cookies to put on plates. Every plate must have the same number of cookies. List all the ways Zara can do it.

Answer:

2 A class has 30 chairs. The teacher wants equal rows with none left over. Can she make rows of 4? Rows of 5?

Answer:

3 Ali has 18 stickers and wants to share them equally with no stickers left over. Which group sizes work: 2, 3, 4, 6 or 9?

Answer:

4 I am a factor of 36. I am an odd number. I am greater than 5. What number am I?

Answer:

How did I do? ☆ ☆ ☆

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FOR TEACHERS AND PARENTS

Answer key: factors and factor pairs

1 Page 1

1) 40: 1 × 40, 2 × 20, 4 × 10, 5 × 8. Factors: 1, 2, 4, 5, 8, 10, 20, 40.
2) 45: 1 × 45, 3 × 15, 5 × 9. Factors: 1, 3, 5, 9, 15, 45.
3) 42: 1 × 42, 2 × 21, 3 × 14, 6 × 7. Factors: 1, 2, 3, 6, 7, 14, 21, 42.
4) 48: 1 × 48, 2 × 24, 3 × 16, 4 × 12, 6 × 8. Factors: 1, 2, 3, 4, 6, 8, 12, 16, 24, 48.

2 Page 2

List all the factors: 1) 20: 1, 2, 4, 5, 10, 20; 2) 32: 1, 2, 4, 8, 16, 32; 3) 54: 1, 2, 3, 6, 9, 18, 27, 54; 4) 28: 1, 2, 4, 7, 14, 28; 5) 56: 1, 2, 4, 7, 8, 14, 28, 56; 6) 24: 1, 2, 3, 4, 6, 8, 12, 24; 7) 30: 1, 2, 3, 5, 6, 10, 15, 30; 8) 18: 1, 2, 3, 6, 9, 18.

Is it a factor? 1) no; 2) yes; 3) no; 4) yes; 5) no; 6) yes.

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Common factors: 1) 12 and 18: 1, 2, 3, 6; 2) 20 and 30: 1, 2, 5, 10.

Think: 1) 16 (it has 5 factors; 17 has only 2); 2) 1; 3) 10; 4) 4, 9, 25 or 49.

4 Page 4: word problems

1) 1 × 24, 2 × 12, 3 × 8, 4 × 6 (and each one the other way around), so 8 ways
2) Rows of 4: no (4 is not a factor of 30). Rows of 5: yes, 6 rows.
3) 2, 3, 6 and 9 (they are factors of 18)
4) 9

5 Teaching tip

Go in order from 1 and write each factor with its partner. When the next number to test is already in your list, you have found them all.

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